



Product Brief

Intel® Server Systems
SR1500AL, SR1550AL
and SR2500AL

The Intel® Server Systems SR1500AL, SR1550AL and SR2500AL

A Family of Rack-optimized Highly integrated Server Systems designed for Flexible, High-density Server Solutions



Product Overview

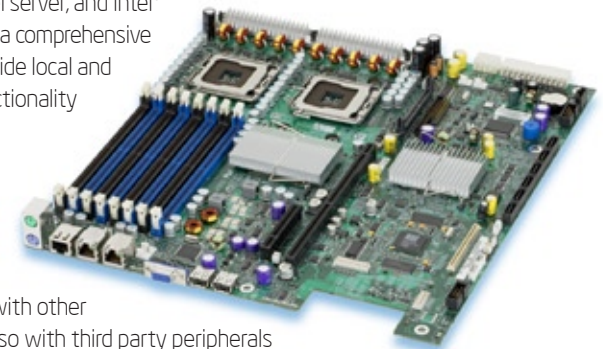
This is Intel's latest generation of enterprise-level, rack-optimized system level solutions. Processing power, reliable memory infrastructure, and redundant networking are critical requirements in growing companies, as well as higher flexibility in data storage and security.

The rack-optimized systems from Intel provide different levels of power and cooling redundancy and flexible storage solutions including 2.5"/3.5" SATA or SAS drives, as well as support for both tape drives and optical drives. These systems designed for space-constrained environments are optimized in either a 1U, 1U with redundant power or a 2U form-factor.

- The 1U systems are designed for organizations running front-end Internet, Web-hosting and HPC applications
- The 2U systems handle more demanding departmental database, datacenter and other high-transaction applications

The Intel® Server Systems SR1500AL, SR1550AL and SR2500AL each include the Intel® Server Essentials CD pack, a suite of software applications that are designed to help reduce the complexity of deploying and managing Intel Server Systems. The Intel® Server Essentials CD pack is comprised of Intel® Deployment Assistant, a graphical tool aimed at simplifying the process of deploying an Intel server, and Intel® System Management Software, a comprehensive software suite designed to provide local and remote server management functionality for businesses of all sizes.

This family of systems is also designed for increased uptime and toolless serviceability. Over 10,000+ hours of testing and validation were done, not only with other building blocks from Intel, but also with third party peripherals and memory to assure compatibility and reliability.



Board Specifications



System Components Included	Intel® Server System SR1500AL or SR1500ALSAS	Intel® Server System SR1550AL or SR1550ALSAS	Intel® Server System SR2500ALBRP or SR2500ALLX
	- Intel® Server Board S5000PAL - Intel® Server Chassis SR1500 - One low profile PCI Express* riser and one full-height/full-length PCI Express riser - Standard control panel - Pre-routed cables 1 x 600-watt power supply - Bridge Board - Three 3.5" hard drive carriers - System fans - Air duct and baffle - Optical Drive Tray - Documentation	- Intel® Server Board S5000PAL - Intel® Server Chassis SR1550 - One low profile PCI Express* riser and one full-height/full-length PCI Express riser - Mini control panel - Pre-routed cables 1 (of 2) 650-watt high efficiency power supply - Bridge Board - Six 2.5" hard drive carriers - System fans - Air duct and baffle - Optical Drive Bay - Documentation	- Intel® Server Board S5000PAL - Intel® Server Chassis SR2500 - One 2 slot low profile PCI Express* riser and one full-height/full-length PCI Express/PCI-X riser - Standard control panel - Pre-routed cables 1 (of 2) 750-watt high efficiency power supply - Bridge Board - Five 3.5" hard drive carriers - System fans - Air duct and baffle - Optical Drive Tray - Documentation - LX SKU Only: Hot-swap and redundant cooling
HDD Interface	SR1500AL: Hot-swap SATA/SAS Passive Backplane SR1500ALSAS: Hot-swap SATA/SAS Active Backplane with integrated 4-port SAS Controller capable of RAID 0, 1, 10 ²	SR1550AL: SATA/SAS Passive Midplane with hot-swap Backplane SR1550ALSAS: Midplane with integrated 8-port SAS Controller and hot-swap SAS/SATA backplane capable of RAID 0, 1, 10 or intelligent RAID 0, 1, 5, 10, 50 via the Intel® RAID Activation Key	SR2500ALBRP: SATA/SAS Passive Midplane with hot-swap Backplane SR2500ALLX: Midplane with integrated 8-port SAS Controller and hot-swap SAS/SATA backplane capable of RAID 0, 1, 10 or intelligent RAID 0, 1, 5, 10, 50 via the Intel® RAID Activation Key
Number of Processor sockets	2	2	2
Processor Support ¹	Multi-core Intel® Xeon® processor	Multi-core Intel® Xeon® processor	Multi-core Intel® Xeon® processor
System Bus Speed	667 MHz, 1066 MHz and 1333 MHz ³	667 MHz, 1066 MHz and 1333 MHz ³	667 MHz, 1066 MHz and 1333 MHz ³
Chipset	Intel® Chipset 5000P	Intel® Chipset 5000P	Intel® Chipset 5000P
PCI Buses	4	4	4
Total Slots	2	2	5
Slot Types	1 x PCI Express x8, 1 x I/O Expansion Module Slot (PCI Express x4) and 1 x Intel® Adaptive Slot ⁴	1 x PCI Express x8, 1 x I/O Expansion Module Slot (PCI Express x4) and 1 x Intel® Adaptive Slot ⁴	2 x Low Profile PCI Express x8, 1 x I/O Expansion Module Slot (PCI Express x4) and 1 x Intel® Adaptive Slot ⁴
Memory Capacity	32GB ECC Fully Buffered DDR2 (8 DIMMs)	32GB ECC Fully Buffered DDR2 (8 DIMMs)	32GB ECC Fully Buffered DDR2 (8 DIMMs)
Integrated LAN	2 x Intel® PRO/1000 EB Ethernet connections with Intel® I/O Acceleration Technology (Intel® I/OAT)	2 x Intel® PRO/1000 EB Ethernet connections with Intel® I/O Acceleration Technology (Intel® I/OAT)	2 x Intel® PRO/1000 EB Ethernet connections with Intel® I/O Acceleration Technology (Intel® I/OAT)
Integrated Graphics	ATI* with 16MB memory	ATI* with 16MB memory	ATI* with 16MB memory
Server Management Support	Intel® System Management Software	Intel® System Management Software	Intel® System Management Software
Form Factor	1U Rack	1U Rack	2U Rack
Drive Bays	3 x 3.5" hot-swap SAS/SATA Optional slim-line Optical Drive/USB-Floppy	Up to 8 x 2.5" hot-swap SAS/SATA Optional slim-line Optical Drive	Standard 5 x 3.5" hot-swap SAS/SATA Flex-bay for optional 6th SAS/SATA HDD or 3.5" Tape-drive Optional slim-line Optical Drive/USB-Floppy
System Cooling	Supports five dual-rotor, variable speed fans and two power supply module fans	Supports five dual-rotor, variable speed fans and two power supply module fans	Support for three (non-redundant—BRP SKU only) or six (redundant—LX SKU only) system fans and two power supply module fans
Power Supply	600-watt, non-redundant PFC	650-watt, dual-line cord 1+1 PFC (fully redundant configuration requires second power module, order code ASR1550PS)	750-watt, dual-line cord 1+1 PFC (Fully redundant configuration requires a second power module, order code ASR2500PS)
Dimensions (H x W x D)	1.703" x 16.93" x 27.25"	1.703" X 16.93" X 25.76"	3.44" x 16.93" x 27.95"

Features and Benefits

Balanced server platforms based on dual-core Intel® Xeon® Processors offer the following:

- **Dual-core processing** multiplies server performance by doubling processing ability on a single chip, without increasing power consumption.
- **Dual independent bus architecture** enables dedicated data flow to each processor, maximizing system performance.
- **Fully buffered DIMM memory** increases capacity and memory bandwidth to keep pace with the processor and I/O performance enhancements.
- **Intel® Extended Memory 64 Technology⁵** extends the amount of available server memory.
- **Intel® I/O Acceleration Technology (Intel® I/OAT)** is a platform innovation that helps get network data to and from server applications faster, while consuming far fewer CPU cycles.
- **Intel® Virtualization Technology⁶** turns a physical server into multiple systems (virtual machines) allowing multiple operating systems and applications to run inside a single platform.
- **Execute Disable Bit⁷** reduces exposure to viruses and prevents harmful software from executing on the server or network.
- **Enhanced Intel SpeedStep® Technology** allows processors to adjust their operating speeds to meet varying performance needs, while balancing power consumption.



Optional Accessories and Spare Parts:

Intel Building Block	Product Name(s)	Order Code(s)
1U Riser Accessories	Full Height PCI X riser	ADWPCIXR
2U Riser Accessories	Full Height PCI X 'active' high performance riser card Full Height PCI X riser card (three PCI X slots)	ADRACTRIS ADRPCIXRIS
SR1500 Bezel Options	SR1500—Black Bezel (for use with Standard Control Panel) SR1500—Black Bezel (for use with Local Control Panel)	ADWBEBLACK ADWLCDBEZEL
SR1550 Bezel Options	SR1550—Black Bezel (for use with Standard Control Panel) SR1550—Black Bezel (for use with Mini Control Panel) SR1550—Black Bezel (for use with Local Control Panel)	ASR1550 ASR1550MINBEZ ASR1550LCDBEZ
SR2500 Bezel Options	SR2500—Black Bezel (for use with Standard Control Panel) SR2500—Black Bezel (for use with Local Control Panel)	ADRBEZBLACK ADRLCDBEZEL
I/O Modules	Dual Gigabit I/O Expansion Module External SAS I/O Expansion Module	AXXGBIOMOD AXXSASIOMOD
Control Panel Options	Intel® Local Control Panel for the SR1500AL Systems Intel® Local Control Panel for the SR1550AL Systems Intel® Local Control Panel for the SR2500AL Systems Intel® Standard Control Panel for the SR1550 systems	AXXLCPRACK ASR1550LCP ASR2500LCP ASR1550FP
Rack Options	Toolless Rail Cable Management Arm (Requires AXXHERAIL) Fixed Mount Bracket Basic Rail Kit	AXXHERAIL AXXRACKCARM AXXBRACKET AXXBASICRAIL
Intel® RAID Options	Intelligent Intel® RAID Activation Key for Active SAS Midplane Intel® RAID SMART Battery Back Up for Active SAS Midplane Intel® RAID Mini DIMM for Active SAS Midplane Intel® RAID Controller 8-Port SATA 3.0 Gbps Intel® RAID Controller 6-Port SATA Intel® RAID Controller 8-Port SAS/SATA Intel® RAID Activation Key for embedded RAID 5 ⁴	AXXRK18E AXXRSBBU3 AXXMINIDIMM SRCS28X SRCS16 SRCAS18E AXXRAKSW5
Intel® Management Module	Intel® Remote Management Module	AXXRM

Technical Specifications

System Memory

Capacity

Eight Fully Buffered DIMM sockets for up to 32 GB of registered ECC DDR2 533 or 667 memory

Reliability Features

Corrects single-bit errors, detects double-bit errors (using ECC memory), and supports Intel® x4 Single Device Data Correction (Intel® x4 SDDC), memory mirroring, memory sparing

Intel® Server Management

Integrated Management Type

IPMI 2.0-compliant onboard platform instrumentation⁹

Software Support

Intel® System Management Software

Supported Operating Systems

Microsoft® Windows® Server 2003 Enterprise Edition, Microsoft Windows 2000 Advanced Server, Red Hat® Linux® Enterprise 4.0, SuSE Linux® Enterprise Server and Novell® NetWare® 6.5

System BIOS

Type

8Mb Flash EEPROM with EFI® BIOS, Multiboot BBS (BIOS Boot Specification) 1.4-compliant

Special Features

Plug and play, IDE drive autoconfigure, SMBIOS 2.3, ECC/parity support, multilingual support, enabled for rolling/online BIOS updates

Jumpers

CMOS clear, password clear, BIOS bank select, BMC boot block write protect, serial port B select

Front-Panel Features

SR1500 and SR2500 systems: Power LED, hard-drive activity LED, system status LED, power/sleep switch, 2 server network connection LEDs, reset switch, NMI switch, System ID LED, Video connection and a bootable USB 2.0 connection

SR1550 system: Power LED, system status LED, power/sleep switch, NMI switch, System ID LED and a bootable USB 2.0 connection

Mechanical

Board Style

SSI TEB 2.1

Board Size

12" x 13" (305 mm x 330 mm)

Environment

Ambient Temperature

Operating (system): +10°C to +35°C;
non-operating/storage (system): -40°C to +70°C ambient

Relative Humidity

Non-operating: 95%, non-condensing at +30°C

Safety and EMC Regulatory Compliance (Class A)

(EMC Regulatory Compliance is based on a board configured in an Intel host system in which Intel tested the board and found it compliant.)
RoHS (Restriction of Hazardous Substances) compliant with server exemption.

Region	Certification Safety and/or EMC	Regulatory Mark Safety and/or EMC
Australia/ New Zealand	ACA, MED	C-Tick
Canada	UL/Industry Canada	cURus/ICES
Europe	European Directives	CE
Germany	GS	GS
International	CB Report / CISPR	No legal requirements
Japan	VCCI (Verification only)	No legal requirements
Korea	RRL	MIC
Taiwan	BSMI DOC	BSMI
United States	UL / FCC (Verification only)	cURus



N232
CANADA ICES-003 CLASS A

To build your system and get more details on server configurations from Intel visit: www.intel.com/go/serverconfigurator

For more details on the Intel® Server Systems SR1500AL, SR1550AL and SR2500AL please see: support.intel.com/support/motherboards/server/s5000pal

For more information on how to make the Intel® Server Systems SR1500AL, SR1550AL and SR2500AL part of your server environment, please contact an Intel® Channel Partner Program participant.

¹ Refer to <http://support.intel.com/support/motherboards/server> for up-to-date details on processors supported by each server board.

² RAID 5 available post launch by adding the AXXRASW5 activation key.

³ 1333 MHz support may require updates that may not be available at launch.

⁴ The Intel® Adaptive slot has the following options: *1U Options:* 1 x PCI X 133 MHz or 1 x PCI Express*; *2U Options:* 3 x PCI X 133MHz (via Active Riser) or 3 x PCI X up-to 100 MHz or 2 x PCI Express and 1 x PCI X 133 MHz

⁵ Intel® EM64T requires a computer system with a processor, chipset, BIOS, operating system, device drivers and applications enabled for Intel® EM64T. Processor will not operate (including 32-bit operation) without an Intel® EM64T-enabled BIOS. Performance will vary depending on your hardware and software configurations. See www.intel.com/info/em64t for more information including details on which processors support Intel® EM64T or consult with your system vendor for more information.

⁶ Intel® Virtualization Technology requires a computer system with an enabled Intel® processor, BIOS, virtual machine monitor (VMM) and for some uses, certain platform software enabled for it. Functionality, performance or other benefits will vary depending on hardware and software configurations. Intel Virtualization Technology-enabled BIOS and VMM applications are currently in development.

⁷ Enabling Execute Disable Bit functionality requires a PC with a processor with Execute Disable Bit capability and a supporting operating system. Check with your PC manufacturer on whether your system delivers Execute Disable Bit functionality.

⁸ Can be upgraded via a Remote Management Module, order code AXXRMM.

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